

C. Remarks

The claims are 1-6 and 11, with claims 1 and 11 being independent. Claims 1 and 11 have been amended to better define the present invention. Support for the amendment may be found, inter alia, in the specification at page 16, lines 7-12. No new matter has been added. Reconsideration of the present claims is expressly requested.

Claim 1 stands rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 5,631,753 (Hamaguchi). Claims 2-6 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hamaguchi in view of U.S. Patent No. 6,586,155 B2 (Furuse). Claim 11 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over U.S. Patent No. 6,011,567 (Nakamura) in view of Hamaguchi. The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly review some of the key features and advantages of the presently claimed invention. The presently claimed invention is directed, in part, to a method for forming an electrode and wiring. In this method, a base pattern is formed by applying a photosensitive resin containing a water-soluble photosensitive resin component and a water-soluble metallic compound onto the substrate and exposing the photosensitive resin. Subsequently, an organic metallic compound is absorbed into the base pattern. Absorbing an organic metallic compound into the exposed base layer reduces the resistance of the base pattern upon baking, thereby improving the conductivity of the electrode and the wiring. Specifically, the base pattern, in which the organic metallic compound is absorbed, is baked at a temperature of 400-600°C to burn and remove the organic component of the

organic metallic compound and the polymer. As a result, the metal component of the organic metallic compound remains and is able to make the electrode highly conductive. As recited in claim 11, this method may be used to form an electrode and a wire for an image-forming apparatus, which includes a plurality of electron-emitting devices and an image-forming member.

Hamaguchi is directed to black matrix substrates and processes for their preparation. However, it fails to disclose or suggest several features of the present invention. Specifically, Hamaguchi does not disclose or suggest baking at 400-600°C. In Hamaguchi, a heating step is conducted at a temperature of 50-200°C or the like, which is lower than a decomposing temperature of the organic material and the polymer. Applicants submit that the heating in Hamaguchi is conducted merely for hardening the photoresist, which would not be conducted at the presently claimed temperatures. Clearly, a baking step as in the present invention is not disclosed.

Furthermore, Hamaguchi fails to disclose or suggest absorbing an organic metallic compound into the base pattern. The Examiner indicated that Hamaguchi discloses N-dimethylamine borate and the water-soluble heavy metal salt including nickel, cobalt, iron, copper, and chromium. However, these are not organic metallic compounds.

An organic metallic compound is generally defined as a compound in which a metal and an organic group are bonded through a metal-carbon direct bond. However, the structure of N-dimethylamine borate is $(\text{CH}_3)_2\text{HN}:\text{BH}_3$. In this compound, the CH_3 group and B are bonded through N. A water-soluble heavy metal salt is, for example, nickel sulfate $\text{Ni}(\text{SO}_4)_2$ or nickel chloride NiCl_2 . Such compounds do not include an

organic group. Accordingly, both N-dimethylamine borate and the water-soluble heavy metal salt are not compounds in which a metal and an organic group are bonded through a metal-carbon direct bond. Therefore, they are not organic metallic compounds. A reaction of compounds, which yields an organic metallic compound that is then absorbed, is also not understood to be disclosed.

In sum, Hamaguchi fails to disclose or suggest at least two features of the presently claimed invention. Specifically, Hamaguchi lacks the teaching regarding absorption of the organic metallic compound into the base layer and baking at 400-600°C.

Furuse cannot provide the teachings missing in Hamaguchi. Furuse relates to a composition for forming an electro-conductive film. Furuse teaches, for example, dissolving a photosensitive resinous component, coating the solution on the substrate, drying to evaporate the solvent, exposing the coated film, developing the exposed film and baking the remaining coated film. However, like Hamaguchi, Furuse does not disclose or suggest a step of absorbing an organic metallic compound into the exposed base pattern and then baking at 400-600°C.

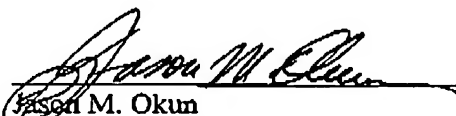
Nakamura cannot cure the deficiencies of Hamaguchi and Furuse. The Examiner has acknowledged that Nakamura fails to disclose or suggest the method steps recited in claim 1. Therefore, since Hamaguchi and Furuse do not disclose or suggest at least absorbing the organic metallic compound and then baking, it is clear that Nakamura cannot be combined with Hamaguchi and Furuse to render the presently claimed invention unpatentable.

In conclusion, Applicants respectfully submit that the cited references, whether considered separately or in any proper combination, do not disclose or suggest the elements presently claimed. Wherefore, Applicants respectfully request that the outstanding rejections be withdrawn and that the present case be passed to issue.

This Amendment should be entered because it places the case in allowable form. Alternatively, it places the case in a better form for a possible appeal. Applicants note that the inclusion of the temperature range in the claims does not introduce a new issue, because the Examiner has already considered this range of temperatures, as indicated on page 7 of the February 3, 2005 final Office Action.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

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